Appl. No. 09/498,398   PATENT
Amdt. dated March 23, 2004
Reply to Office Action of January 20, 2004

REMARKS/ARGUMENTS

Amendments

   The claims are modified in the amendment. More specifically, claim 26 has been amended and new claims 45 and 46 have been added. Therefore, claims 13-21 and 26-46 are present for examination. The amendment to claim 26 only corrects a typographical error. No new matter is added by these amendments. Applicant respectfully requests reconsideration of this application as amended.

35 U.S.C. §103 Rejection, Shlomot et al. in view of Shepard

   The Office Action has rejected claims 20 and 26-44 under 35 U.S.C. §103(a) as being unpatentable over the cited portions of U.S. Patent No. 5,699,481 to Shlomot et al. (hereinafter "Shlomot") in view of the cited portions of U.S. Patent No. 5,943,347 to Shepard (hereinafter "Shepard"). Applicants believe a *prima facie* case of obviousness has not been properly set forth in the final Office Action with regard to a rejection of claims 20 and 26-44. The patent office is charged with putting forth a prima facie showing of obviousness. The basic test is excerpted below:

   "To establish a *prima facie* case of obviousness, three basic criteria
  must be met. First, there must be some suggestion or motivation, either in the
  references themselves or in the knowledge generally available to one of ordinary
  skill in the art, to modify the reference or to combine reference teachings.
  Second, there must be a reasonable expectation of success. Finally, the prior art
  reference (or references when combined) must teach or suggest all the claim
  limitations." See MPEP §2143, Original Eighth Edition, August, 2001, Latest
  Revision February 2003.

Applicants believe the rejection has flaws with at least the third prong of the above test for establishing a *prima facie* case of obviousness.

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Teachings Missing from the Cited References

With regard to the third prong of the test, Applicants believe the Office Action does not properly show how Shlomot and Shepard teach or suggest the invention in the claims. More specifically, (1) Shepard does not teach or suggest an expanded portion that "corresponds to a different amount of the signal than either the first or the second received frames;" and (2) Shlomot does not teach or suggest working with data stream that has packet loss. For least these reasons, Applicants respectfully request for reconsideration of the rejection to the claims.

Summary of Cited References

Shepard teaches only the repair of missing or incorrect information after a packet has been received. This operation repairs precisely one packet at a time. Shepard, column 4, lines 13-52. In other words, Shepard creates a reconstructed signal where time intervals have identical length as the corresponding packets of the original signal. Shepard cannot expand the signal by a varying portion when a packet arrives late and only replaces defective packet portions. Id., column 3, lines 44-46. This contrasts with the claimed invention, where the expanded portion temporarily increases the size of the reconstructed signal. Indeed, Shepard cannot even expand the signal.

Shlomot teaches a time recovery scheme where packets are late due to clock drift. Shlomot does not teach how to handle situations where packets are permanently lost, only how to handle situations where they are delayed due to clock drift. Shlomot teaches how the transmitter may decide not to send packets during silence and that the same CSP can be played over and over again or muted in such scenarios. See col. 9, lines 24-44.

First Missing Limitation: Expanded Portion Different from the Frame Size

Shepard defines a "receive operation" that determines if there is a bad portion in a received packet. Shepard, column 4, line 23; and Id., claim 1. Packet receive operations are carried out at regularly spaced time instants such that the packet repair is done for signal time segments that correspond to the fixed packet size. Id., column 3, lines 43-46. In this sense, the Shepard method is identical to the method of Shlomot, which only operates in units of entire

packets. Indeed, there is no concept of an expanded portion or expanding packets that would stretch out the played signal in Shepard.

The Shepard approach does not naturally lead to a time-varying play-out rate that results from using expanded portions. Shepard can only replace bad portions of packets without expansion. Hence, Shepard cannot be relied upon to teach an expanded portion that is of a different size than the frame as required by the claims.

Second Missing Limitation: Packet Loss in Received Signal

Shlomot does not teach or suggest working with a data stream that might exhibit packet loss as generally required by the claims. In the last office action response, the point was made by the Applicants that Shlomot does not contemplate permanent packet loss in the received signal. The present Office Action cites Fig. 4 and col. 3, lines 54-56 through col. 4, line 41, for the proposition that Shlomot taught lost packets because of the mention of "missing speech packets." Applicants believe that is interpretation is not supportable when considered in the context of the whole Shlomot et al. patent. More specifically, Applicants believe Shlomot means to say a drained buffer or an underflow condition when using the term "missing speech packets." Stated more bluntly, "missing" in Shlomot does not mean "packet loss" as required by claims 26, 43 and 44. Granted a definition of "missing" could include "packet loss," but reliance on this reference for the teaching of the more specific case of "packet loss" is simply not reasonably supportable.

For at least these reasons, Applicants believe it is unreasonable to continue to rely upon Shlomot for the proposition that a signal with packet loss is taught. Please refer to the response to the last Office Action for a more complete discussion of the reasoning that is not repeated here.

Other Missing Limitations in Dependent Claims 34 and 38

Shlomot, Shepard and Kubin use fixed sized segments, but in none of these references is the segment size data dependent as in claim 38. With respect to claim 34, none of the cited references contemplate considering multiple frames in deciding when to compress or

expand. For example, Shlomot operates inside the decoder, therefore, it would only have access to one frame at a time. Accordingly, the Applicants believe at least these dependent claims provide further reasons for patentability. It is respectfully requested that any further office action specifically explain how these limitations would not be patentable.

35 U.S.C. §103 Rejection, Shlomot et al. in view of Shepard and Kubin et al.

The Office Action has also rejected claims 13-19 and 21 under 35 U.S.C. §103(a) as being unpatentable over Shlomot in view of Shepard and in further view of IEEE, 1994, pages 453-456 of "Time Scale Modification of Speech Based on a Non-linear Oscillator Model" to Kubin et al. (hereinafter "Kubin"). Like Shlomot, Kubin addresses the problem of intelligibility during fast playback and does not anticipate packet loss.

Despite the contrary assertion in the Office Action, the Applicants believe Kubin does not teach or suggest the variable segments of claim 15, fine resolution of claim 16, gain scaling of claim 17 or how to avoid periodicity. Also, none of the cited references contemplate expansion of the first part of a future frame as in claim 19.

Applicant notes that the motivation to make the specific combination of elements suggested in the application is lacking. A general motivation is not sufficient to guide one of ordinary skill when picking and choosing various elements from multiple references unless guided by impermissible hindsight reconstruction. For at least these reasons, the claims addressed above are believed to have further reasons to support patentability.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

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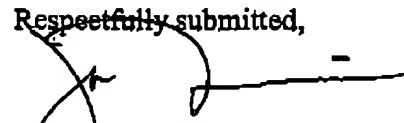Amdt. dated March 23, 2004
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If the Examiner believes a telephone conference would expedite prosecution of
this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

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